08 - ILLUMINATION INDEX OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE	DRAWING NUMBER	DRAWING TITLE
ILL-01	ILLUMINATION INDEX OF DRAWINGS		
ILL-02	ILLUMINATION PLAN		
ILL-03	ILLUMINATION PLAN		
ILL-04	ILLUMINATION PLAN		
ILL-05	ILLUMINATION PLAN		
ILL-06	ILLUMINATION PLAN		
ILL-07	ILLUMINATION PLAN		
ILL-08	NAVIGATION LIGHTS		
ILL-09	NAVIGATION LIGHTS (PENDANT MOUNTED)		
ILL-10	NAVIGATION LIGHT AND SOLAR POWER SUPPLY		
ILL-11	LIGHT STANDARD AND HANDHOLE		
ILL-12	CONNECTIONS & CONDUIT IN TRENCH		

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I-95 SB &	TR 817 BRIDGE NOS. 02514A	8
02514B	OVER THAMES RIVER, SR 635	
RR, LO	OCAL ROADS & STATE PIER	

VN:		LONDON ROTON	
DAIW	TITLE		

ILLUMINATION
INDEX OF DRAWINGS

PROJECT NO.

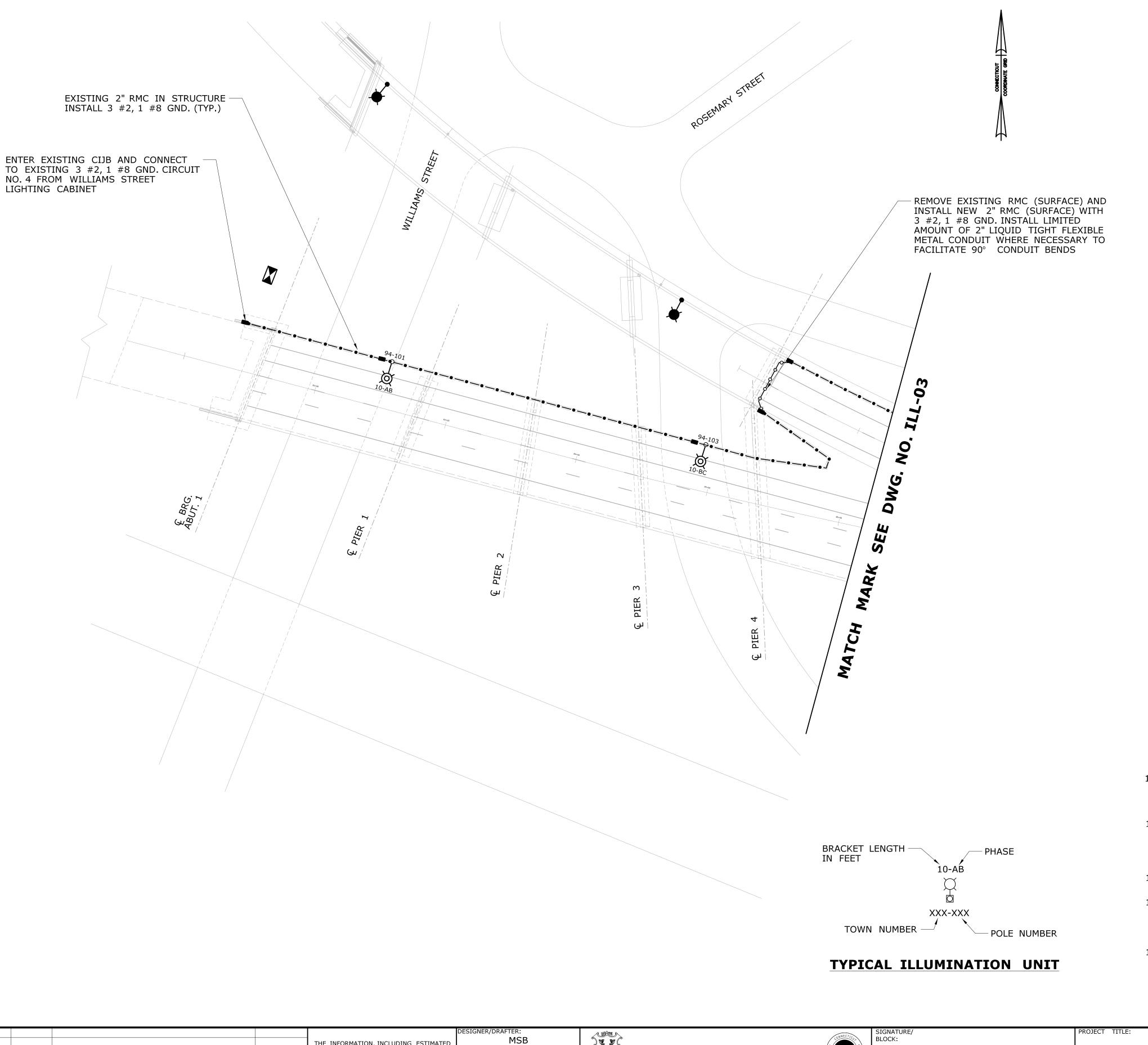
94-252

DRAWING NO.

TLL-01

SHEET NO.

08.01



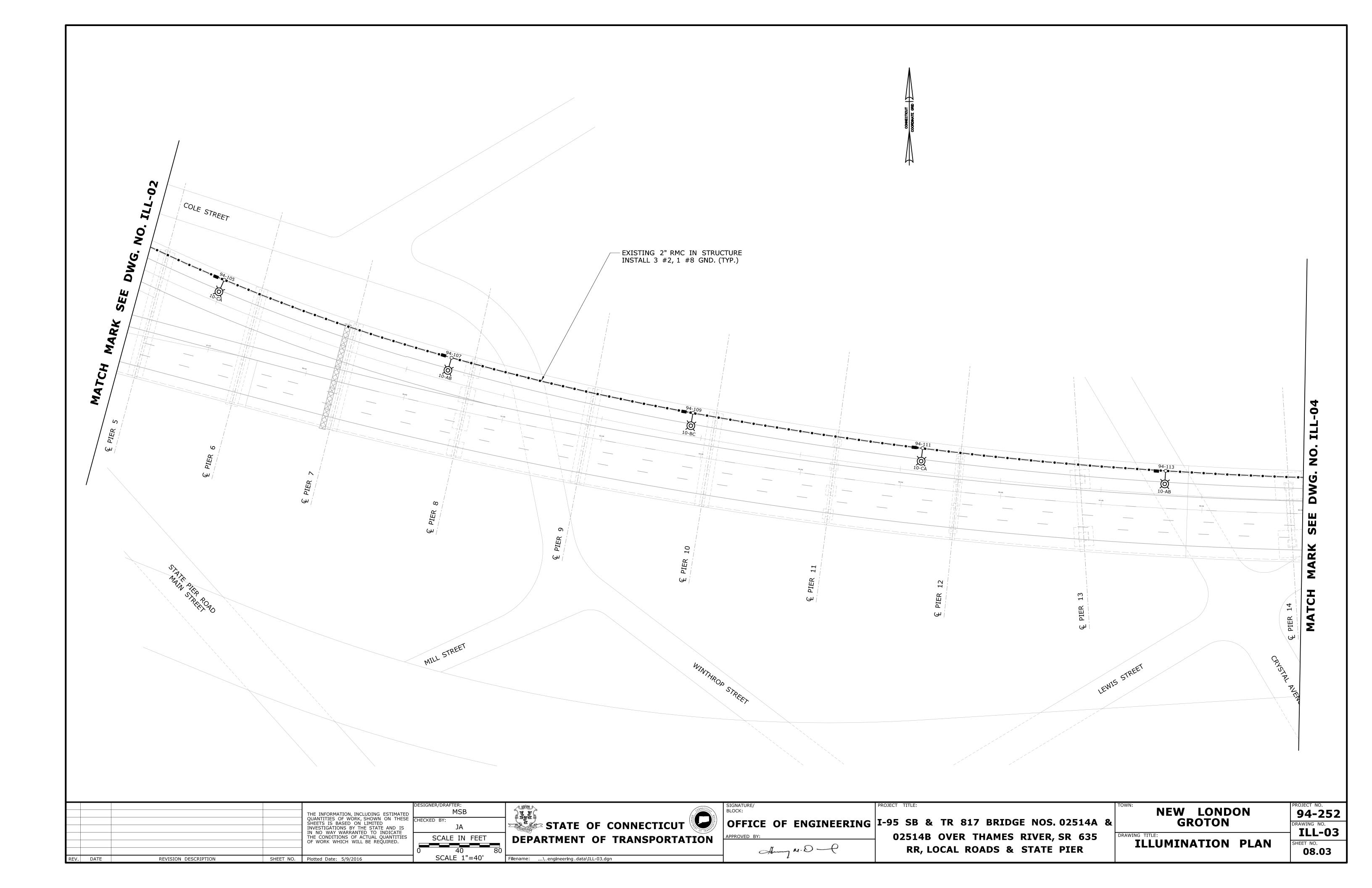
ILLUMINATION LEGEND

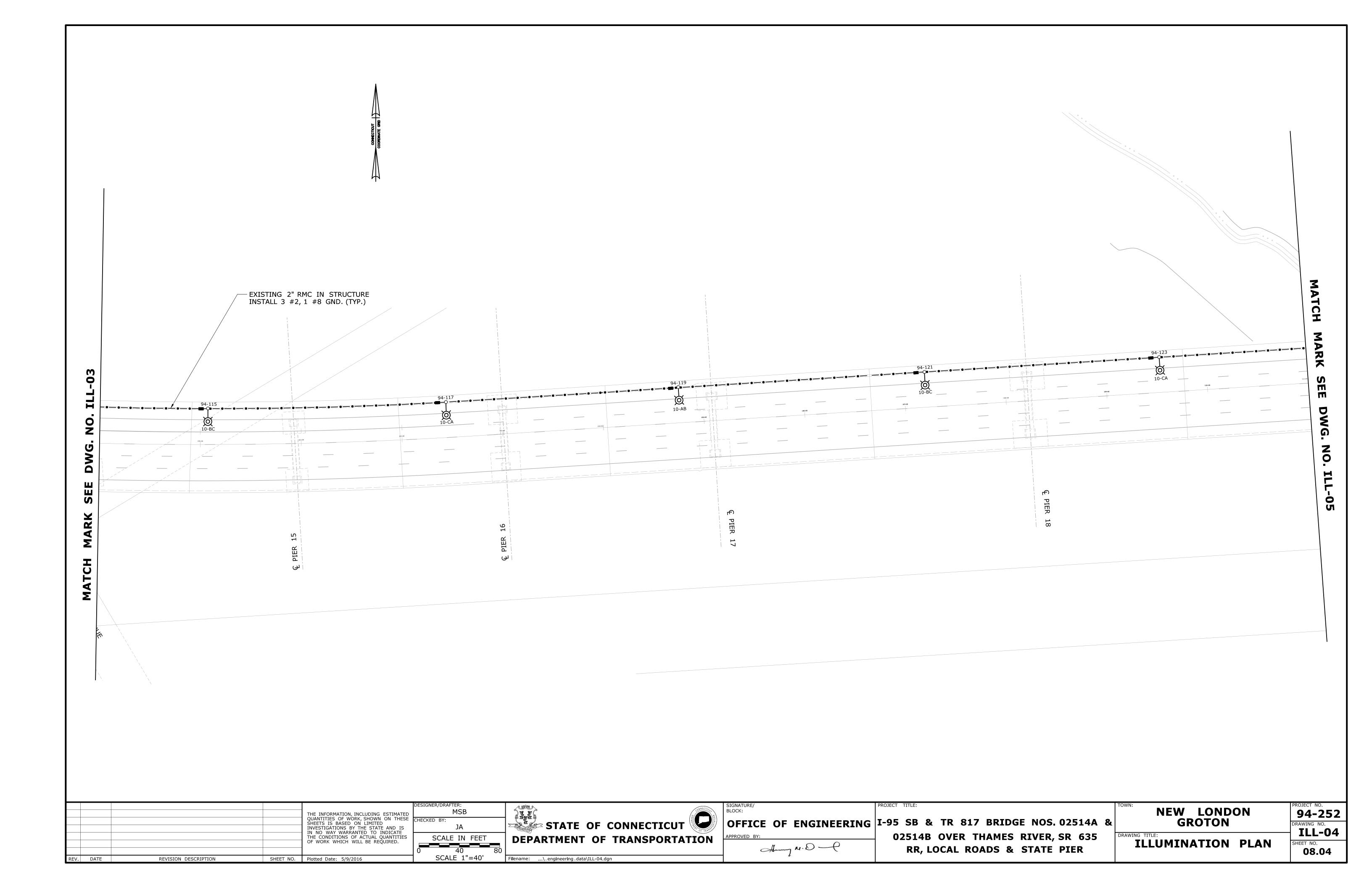
- □□◯ LED ROADWAY LUMINAIRE (20,000-24,000 LUMEN, TYPE II, FULL-CUTOFF, 40' MOUNTING HEIGHT)
- EXISTING STRUCTURE MOUNTED LIGHT STANDARD AND LUMINAIRE TO REMAIN
- ★ 180° RED LED NAVIGATION LIGHT
- 360° GREEN LED NAVIGATION LIGHT
- CONCRETE HANDHOLE (TYPE I)
- EXISTING CAST IRON JUNCTION BOX (CIJB) FOR NAVIGATION LIGHT CIRCUIT
- EXISTING CAST IRON JUNCTION BOX FOR HIGHWAY LIGHTING CIRCUIT
- EXISTING LIGHTING CONTROL CABINET (TO REMAIN)
- O—O—O RMC (SURFACE) SIZE AND QUANTITY OF CONDUCTORS AS INDICATED.
- ○ ○ 2" POLYVINYL CHLORIDE CONDUIT IN TRENCH 3 #8
- ● ● EXISTING RIGID METAL CONDUIT IN STRUCTURE TO REMAIN REMOVE EXISTING CONDUCTORS AND INSTALL 3 #2, 1 #8 BARE GND. TYPICAL (U.O.N.)
- ————— EXISTING UNDERGROUND CIRCUITRY TO REMAIN

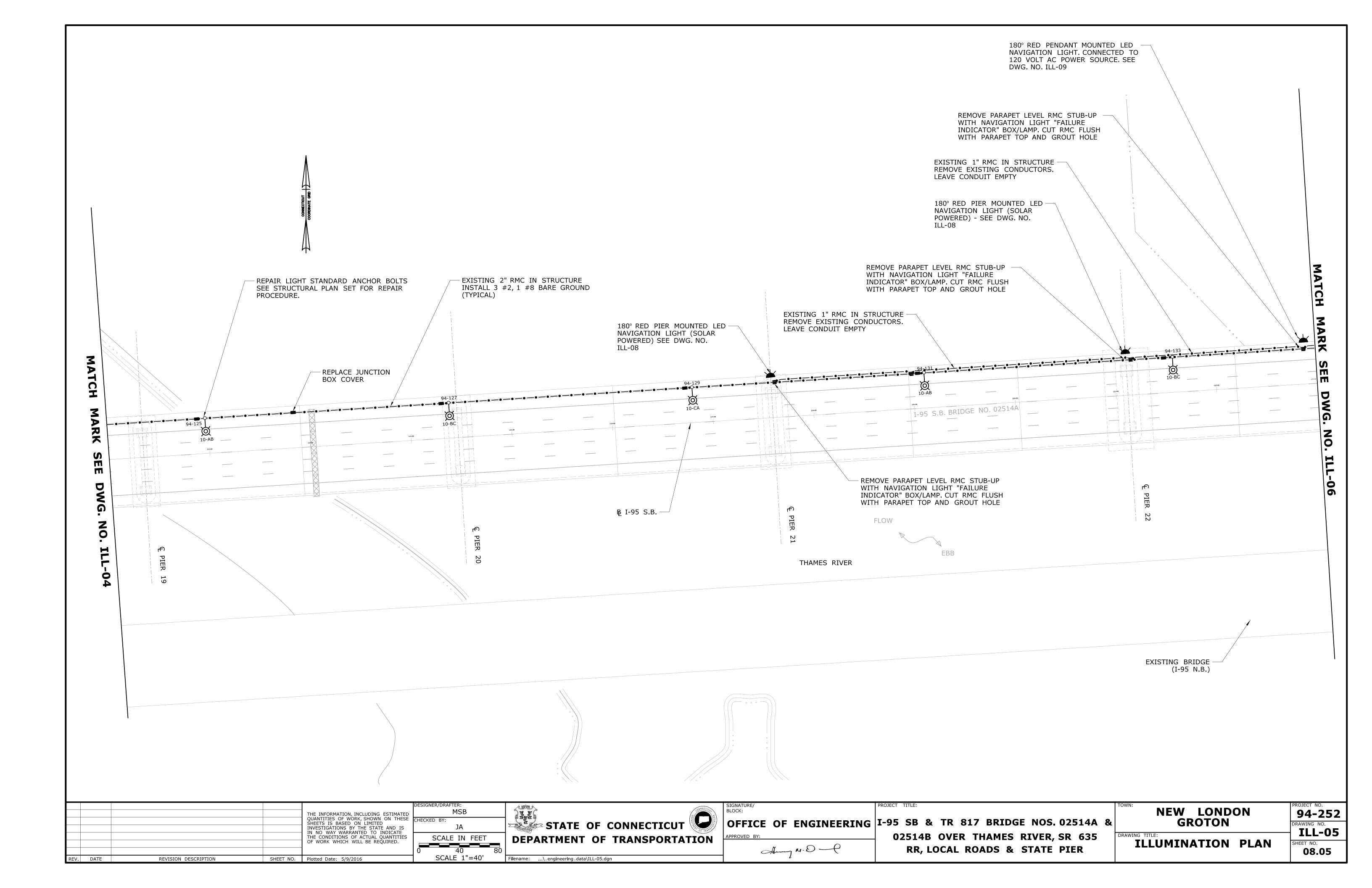
GENERAL NOTES

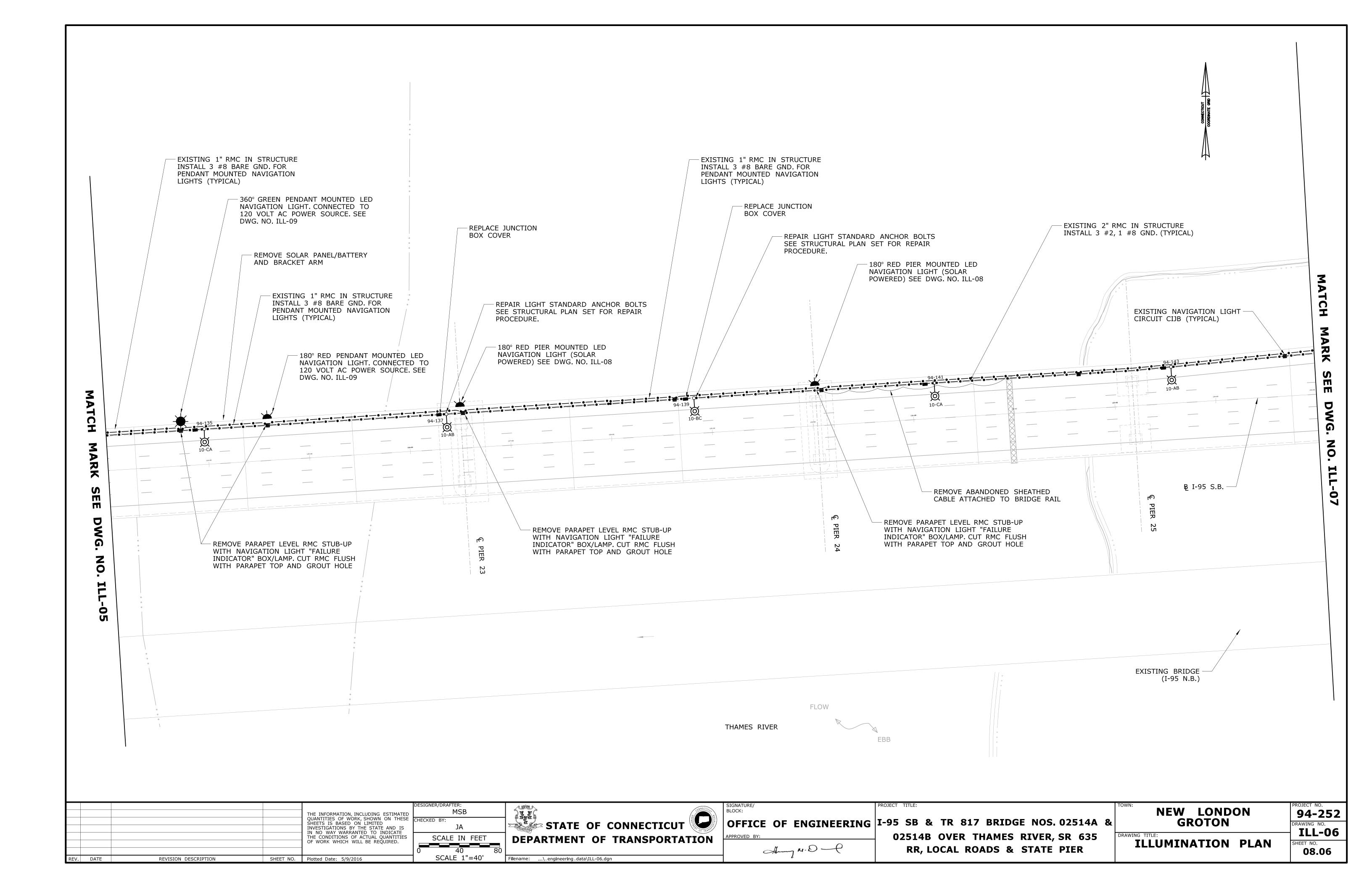
- 1) THE CONTRACTOR SHALL ORGANIZE HIS WORK SO THAT ANY PORTION OF THE ROADWAY WHICH HAS EXISTING ILLUMINATION AND IS OPEN FOR USE REMAINS LIGHTED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO STAGE THE INSTALLATION OF NEW LIGHT STANDARDS AND CIRCUITRY IN SUCH A MANNER THAT ALL ROADWAYS WITH EXISTING ILLUMINATION ARE CONTINUOUSLY LIGHTED. THE CONTRACTOR SHALL MAINTAIN ALL LIGHTING THROUGHOUT THE DURATION OF THE PROJECT. SEE SECTION 10.00 FOR SPECIFIC REQUIREMENTS.
- 2) ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, AND CONNECTICUT STANDARD SPECIFICATIONS.
- 3) ALL "COBRA HEAD" TYPE ROADWAY LUMINAIRES SHALL BE RATED I.E.S. FULL-CUTOFF.
- 4) HIGHWAY ILLUMINATION CONDUCTORS SHALL BE NO. 2 AWG, STRANDED, COPPER, INSULATION TYPE XHHW AND RATED FOR 600 VOLTS. INSULATION SHALL BE COLORED CROSS LINKED POLYETHELENE (XLP). THREE PHASE CIRCUIT COLORS SHALL BE AS FOLLOWS: BLUE, BLACK, RED.
- 5) INSTALL ONE NUMBER 8 BARE COPPER GROUNDING CONDUCTOR THROUGHOUT ALL HIGHWAY LIGHTING CIRCUITS.
- 6) NAVIGATION LIGHT BRANCH CIRCUIT CONDUCTORS SHALL BE NO. 8 AWG, STRANDED COPPER, INSULATION TYPE XHHW AND RATED FOR 600 VOLTS. INSULATION SHALL BE COLORED CROSS LINKED POLYETHELENE (XLP). SINGLE PHASE CIRCUIT COLORS SHALL BE AS FOLLOWS: WHITE, BLACK, GREEN.
- 7) NAVIGATION LIGHT "TAP" CONDUCTORS SHALL BE NO. 10 AWG, STRANDED COPPER, INSULATION TYPE THWN AND RATED FOR 600 VOLTS. SINGLE PHASE CIRCUIT COLORS SHALL BE AS FOLLOWS: WHITE, BLACK, GREEN.
- 8) LOCATION OF EXISTING ILLUMINATION ON PLANS IS APPROXIMATE.
- 9) TAPE ALL UNUSED CONDUCTORS.
- 10) THE CONTRACTOR SHALL ABIDE BY THE CONNDOT LOCKOUT/TAGOUT PROCEEDURES WHEN ACCESS TO A CIRCUIT IS REQUIRED. THE CONTRACTOR SHALL CONTACT THE DISTRICT ELECTRICAL SUPERVISOR AT TELEPHONE (860) 537-8942, WHEN ACCESS TO A CIRCUIT IS REQUIRED.
- 11) WHERE EXISTING R.M.C. IS TO BE RE-USED, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING CONDUCTORS WITHIN THE CONDUIT. WHERE CONDUCTORS ARE TO BE PULLED INTO EXISTING OR NEW CONDUIT, THE COST OF FURNISHING AND INSTALLING THE PULL-LINE SHALL BE INCLUDED IN THE COST OF THE CONDUCTORS.
- 12) ALL PVC CONDUIT SHALL BE SCHEDULE 80. ALL FIBERGLASS CONDUIT SHALL BE EXTRA HEAVY WALL (0.250").
- 13) THE EXISTING HIGHWAY LIGHTING CIRCUITRY IS 480 VOLT, 3 PHASE, 3 WIRE. THE HIGHWAY LIGHTING CONTROL CABINET IS LOCATED ON WILLIAMS STREET IN NEW LONDON. THE EXISTING NAVIGATION LIGHT CIRCUITRY IS 120 VOLT, SINGLE PHASE. THE EXISTING NAVIGATION LIGHT CONTROL CABINET IS ATTACHED TO PIER NO. 31 ADJACENT TO FAIRVIEW AVENUE IN GROTON.
- 14) ALL MOUNTING HARDWARE (ANCHOR NUTS, FLAT WASHERS, LOCK WASHERS, ELASTOMERIC WASHERS, AND ELASTOMERIC PAD) REQUIRED TO INSTALL THE NEW PARAPET MOUNTED LIGHT STANDARDS SHALL BE NEW.

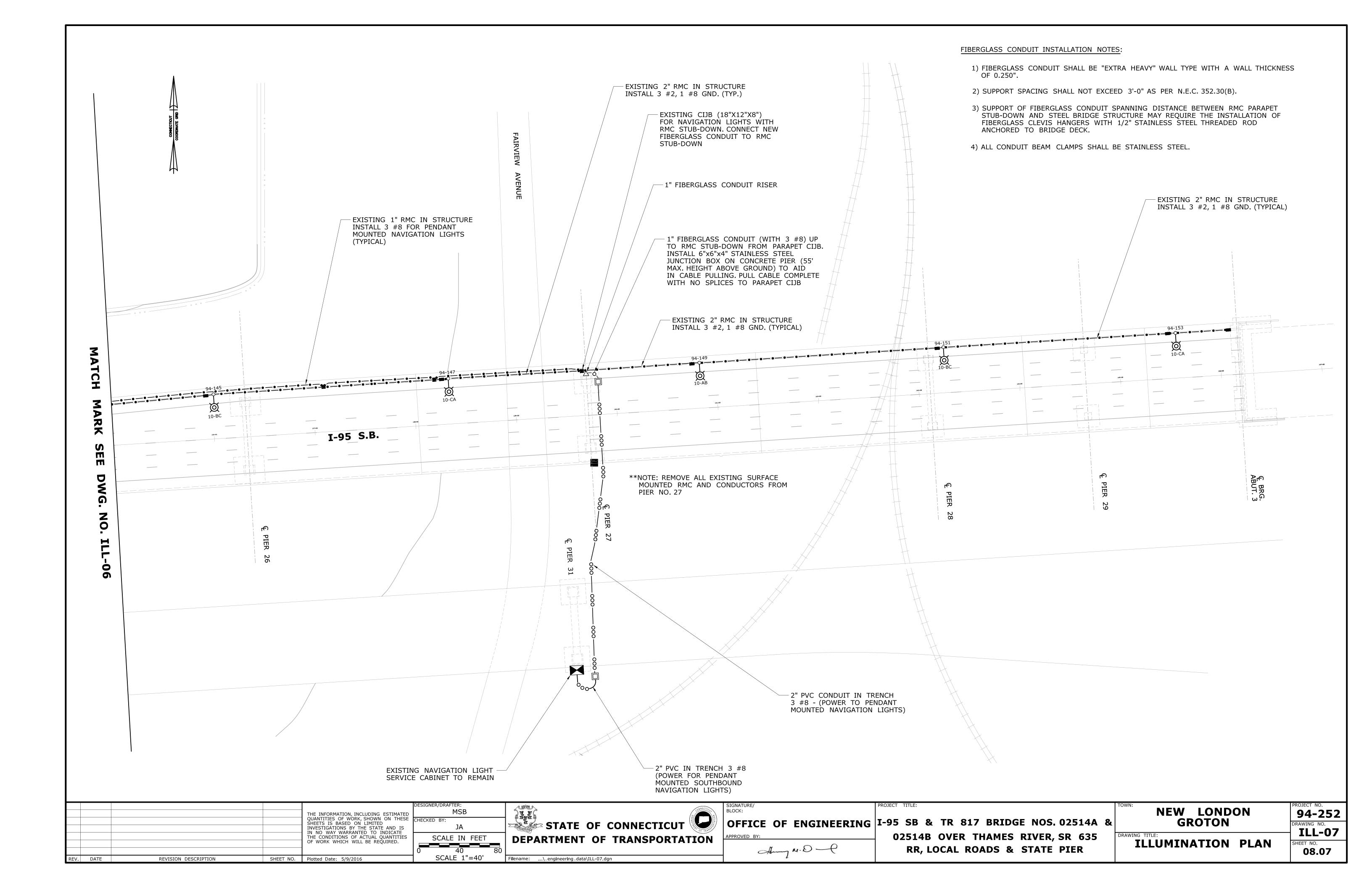
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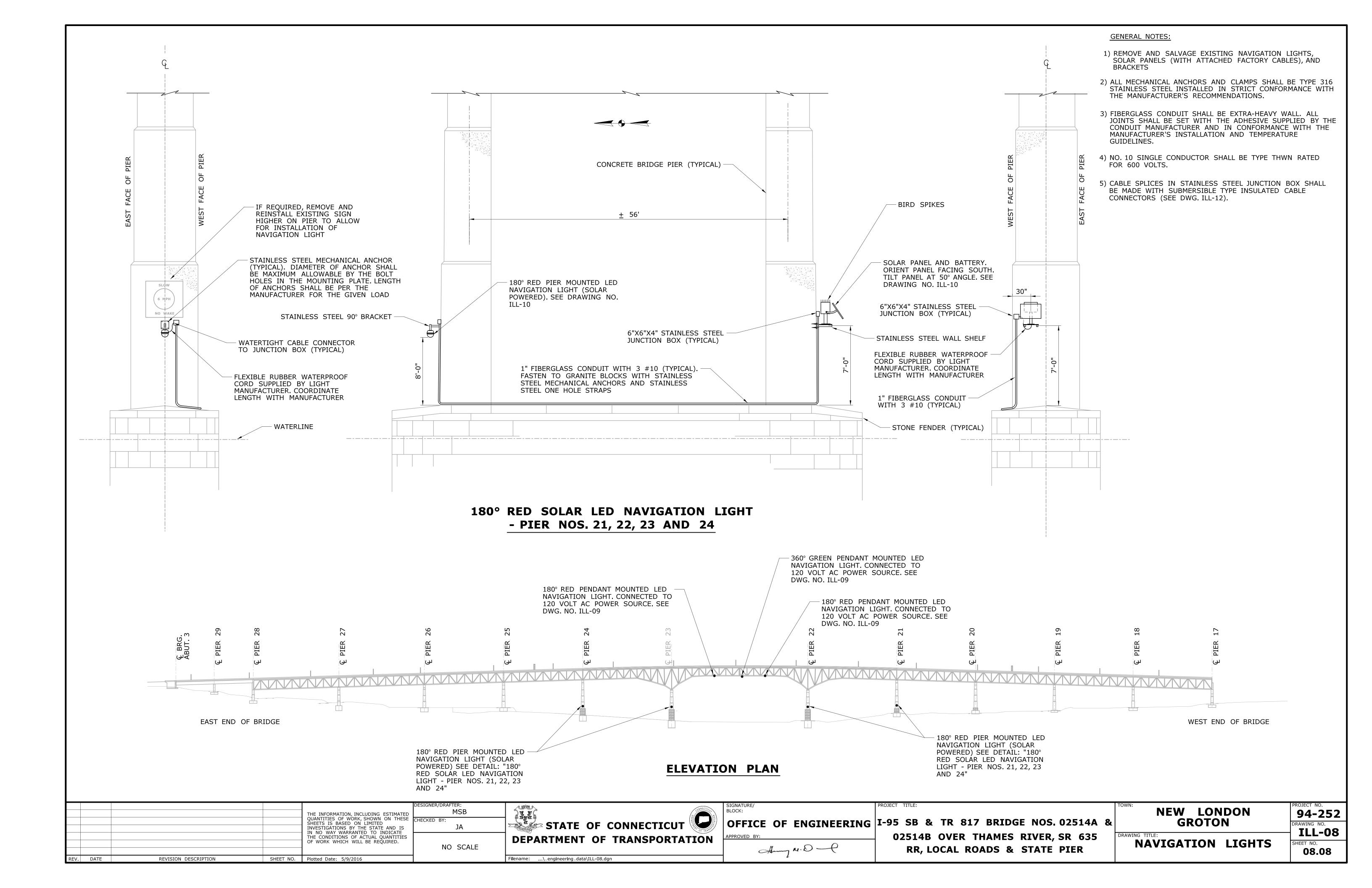


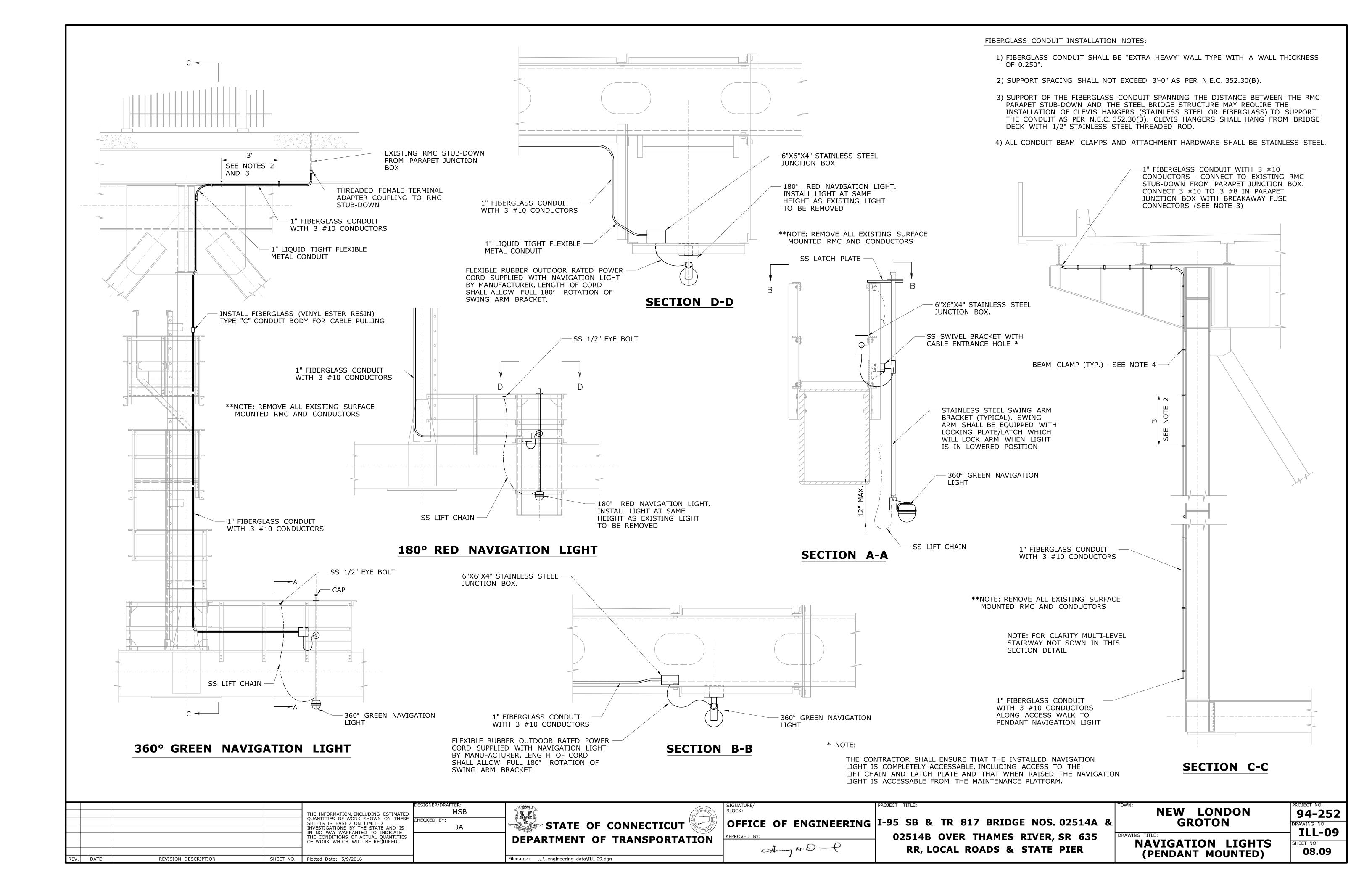


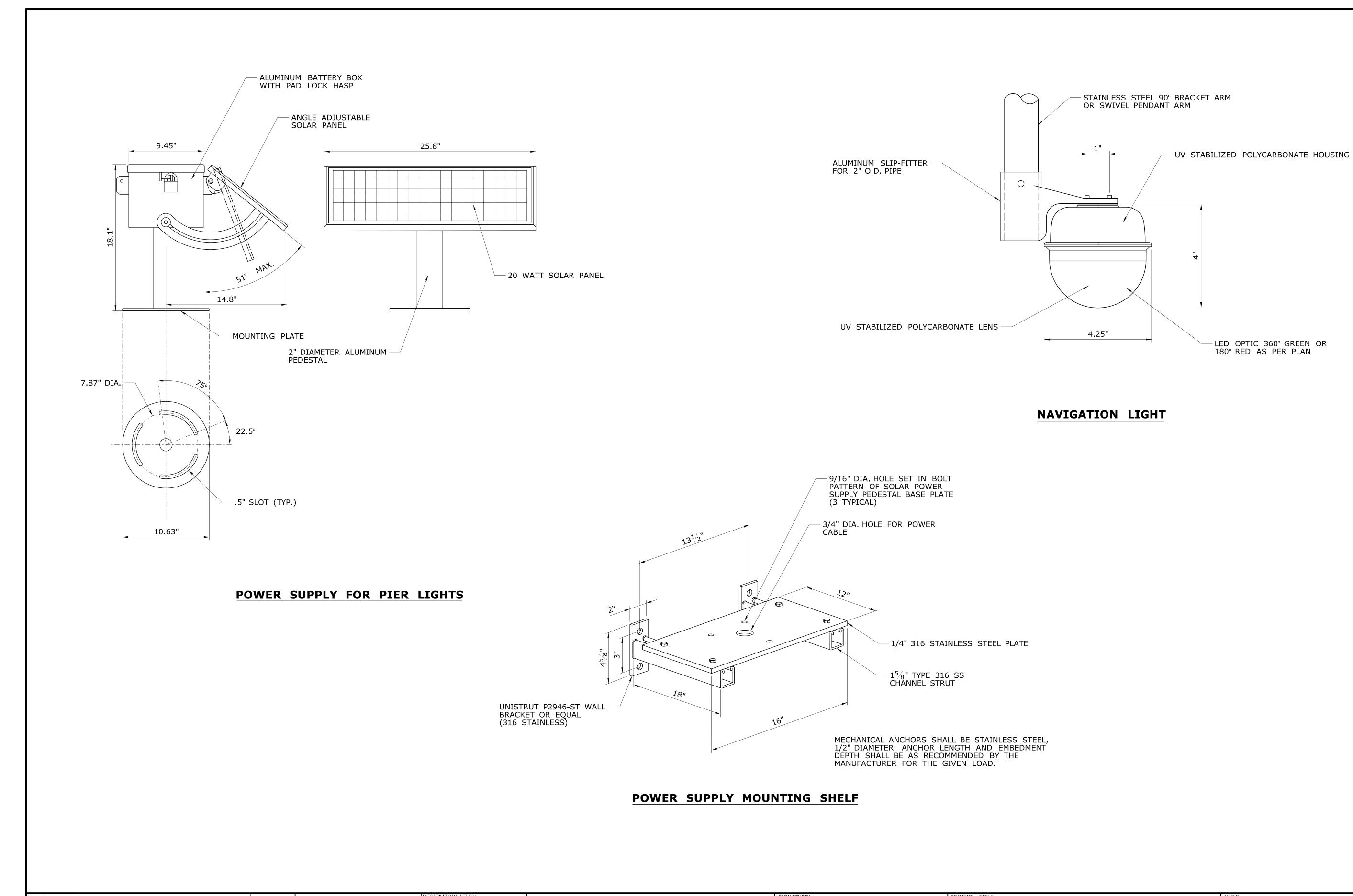




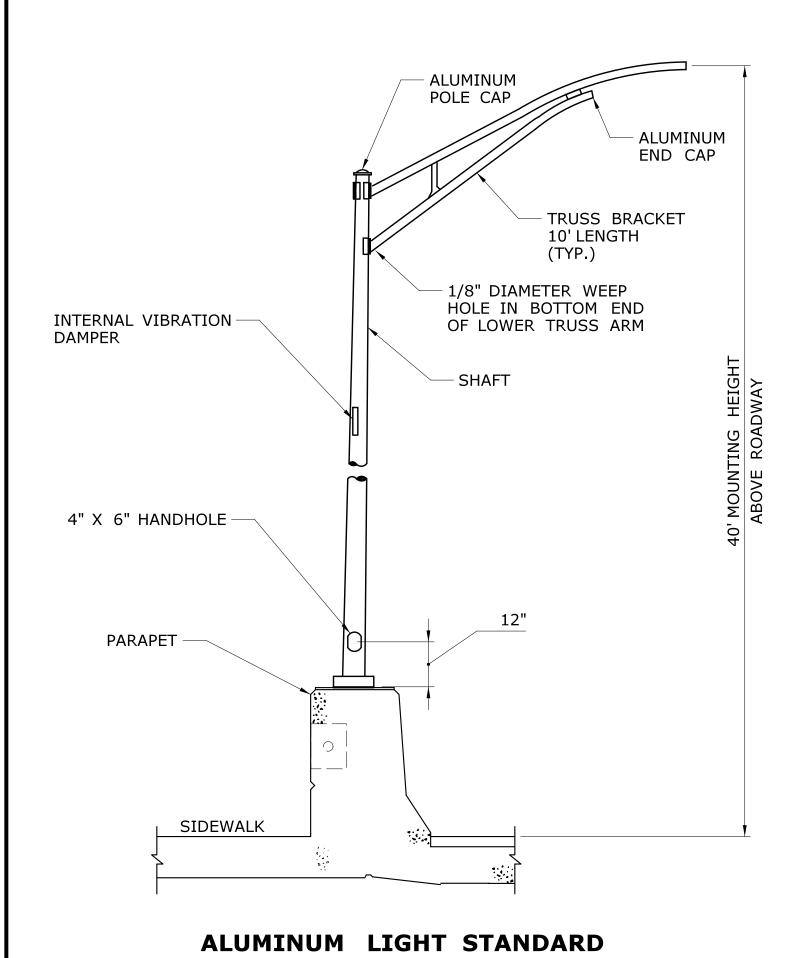








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OF WORK WHICH WILL BE REQUIRED.	NO SCALE	DEPARTMENT OF TRANSPORTATION	Amy M.D.	RR, LOCAL ROADS & STATE PIER	NAVIGATION LIGHT AND SOLAR POWER SUPPLY	SHEET NO. 08.10
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	ALUMINUM LIGHT STANDARD - DIMENSION TABLE									
MOUNTING	BRACKET	SHAFT D	IAMETER	CHAET WALL	DACE TYPE	ANCHOD BOLT	POLT CIRCLE			
HEIGHT	LENGTH	воттом	ТОР	SHAFT WALL THICKNESS	BASE TYPE	ANCHOR BOLT SIZE	BOLT CIRCLE DIAMETER			
40'	10'	10"	6"	.250"	ANCHOR	1" X 40"	15" **			

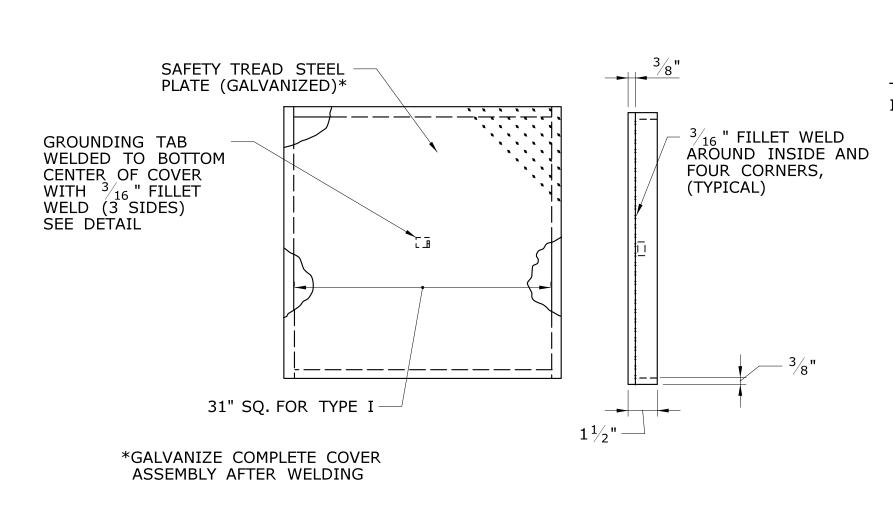
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LIGHT STANDARD NOTES:

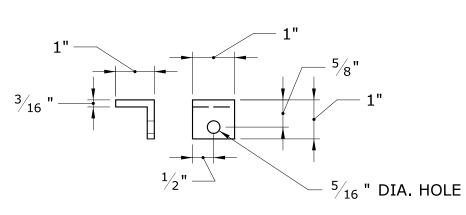
- 1) ALUMINUM ALLOY SHALL BE 6063, T6 TEMPER. 5)
- 2) BOLT CIRCLE SHOWN IS FOR ANCHOR BASE BOTTOM OR TRANSFORMER BASE BOTTOM (WHICHEVER IS APPLICABLE).
- 3) TO BE DESIGNED TO AASHTO "STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" FOR 90 M.P.H. WINDS.
- 4) WELDING DESIGN AND FABRICATION SHALL CONFORM TO THE LATEST EDITION OF THE ANSI/AWS D1.2, STRUCTURAL WELDING CODE ALUMINUM.
- FOR BASE CONNECTION WELDS, FABRICATION INSPECTION AND TESTING SHALL BE PERFORMED AS NECESSARY PRIOR TO ASSEMBLY, DURING ASSEMBLY, DURING WELDING, AND AFTER WELDING, TO ENSURE THAT MATERIALS AND WORKMANSHIP MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. FABRICATION INSPECTION AND TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR. VERIFICATION INSPECTION AND TESTING IS THE PREROGATIVE OF THE ENGINEER (CONNDOT).
- 6) NON-DESTRUCTIVE TESTING FOR ALUMINUM SHALL BE AS FOLLOWS: A RANDOM 25% OF ALL BASE CONNECTION WELDS SHALL BE INSPECTED IN ACCORDANCE WITH ASTM E-165 STANDARD PRACTICE FOR LIQUID PENETRANT INSPECTION METHOD.

CAST ALUMINUM **BOLT COVER** S.S. HEX HEAD BOLT HEX NUT, GALV. FLATWASHER, GALV. LOCKWASHER, GALV. -VIBRATION ISOLATION WASHER ($\frac{1}{2}$ " THICK) FLATWASHER, GALV. ANCHOR BASE CROSS SECTION THROUGH ONE CORNER - VIBRATION ISOLATION PAD $\frac{1}{2}$ " THICK LEVELING PAD EXISTING ANCHOR BOLT WIRE WHEEL THREADS - CONCRETE PARAPET AND COAT WITH ZINC COMPOUND

ANCHOR BASE LIGHT STANDARD MOUNTING HARDWARE



OVERLAP TYPE COVER



STEEL GROUNDING TAB

ATTACH 72" LENGTH OF NO. 8 GROUND

WIRE TO GROUNDING TAB WITH ONE

HOLE LUG, $\frac{1}{4}$ " x $\frac{3}{4}$ " LG. SST HEX

TO NO. 8 BARE GROUND WIRE IN

HANDHOLE.

HEAD BOLT, AND SST FLAT WASHER

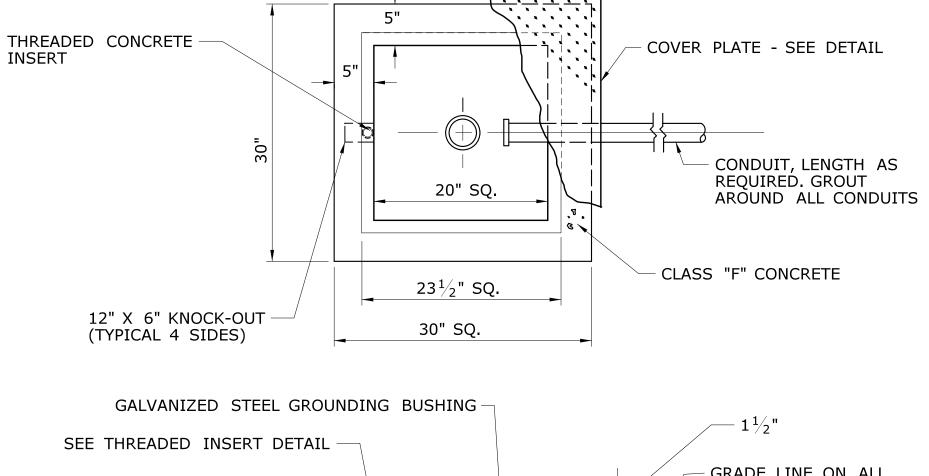
ATTACH FREE END OF GROUND WIRE

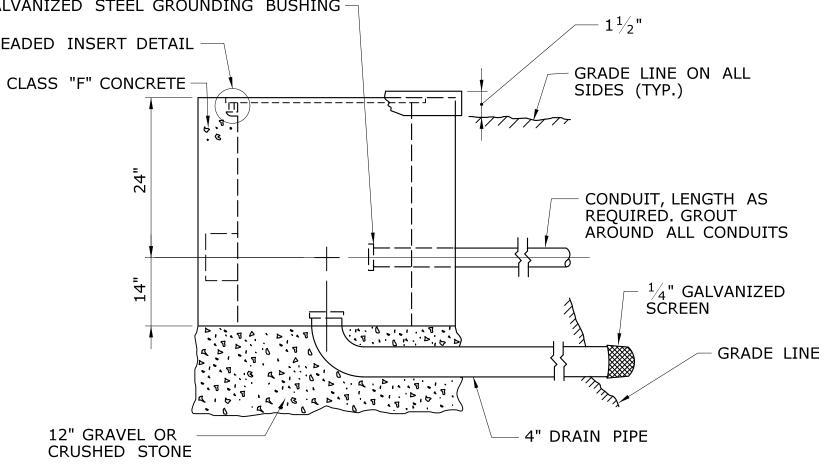
LIGHT STANDARD ATTACHMENT NOTES:

- 1) ALL LIGHT STANDARD MOUNTING HARDWARE (NUTS, WASHERS, ELASTOMERIC PAD AND WASHERS) SHALL BE NEW.
- 2) THE CONTRACTOR SHALL REMOVE THE EXISTING ANCHOR BOLT HEX NUTS IN SUCH A MANNER AS TO AVOID DAMAGING THE EXISTING ANCHOR BOLT. RECOMMENDED METHODS OF REMOVAL INCLUDE THE APPLICATION OF PENETRATING OILS, HEAT, FREEZE COMPOUNDS, AND THE USE OF A HYDRAULIC NUT SPLITTER. WHERE STANDARD REMOVAL TECHNIQUES FAIL, THE CONTRACTOR SHALL INFORM THE ENGINEER AND AWAIT FURTHER INSTRUCTION.
- 3) WHERE THE EXPOSED (THREADED) ANCHOR BOLT IS OF INSUFFICIENT LENGTH TO INSTALL THE HARDWARE AS INDICATED IN THE "ANCHOR BASE LIGHT STANDARD MOUNTING HARDWARE" DETAIL, THE CONTRACTOR SHALL SEQUENTIALLY MAKE HARDWARE ADJUSTMENTS (ONE ADJUSTMENT AT A TIME STARTING WITH "A") AS LISTED BELOW UNTIL FULL THREAD ENGAGEMENT OF THE HEX NUT IS ACHIEVED:
 - A) REDUCE THICKNESS OF ELASTOMERIC WASHER FROM 1/2" TO 1/4".
 - B) REDUCE THICKNESS OF ELASTOMERIC WASHER AND ELASTOMERIC PAD FROM 1/2" TO 1/4".
 - C) REDUCE THICKNESS OF ELASTOMERIC PAD FROM 1/2" TO 1/4" AND ELIMINATE ELASTOMERIC WASHER AND ONE FLAT WASHER.

ADJUSTMENT "A" WILL EXPOSE 1/4" OF ADDITIONAL THREAD. ADJUSTMENT "B" WILL EXPOSE 1/2" OF ADDITIONAL THREAD. ADJUSTMENT "C" WILL EXPOSE 7/8" OF ADDITIONAL THREAD. WHERE THE ABOVE ADJUSTMENTS FAIL TO EXPOSE THE REQUIRED LENGTH OF ANCHOR BOLT THREAD, THE CONTRACTOR SHALL INFORM THE ENGINEER AND AWAIT FURTHER INSTRUCTION.

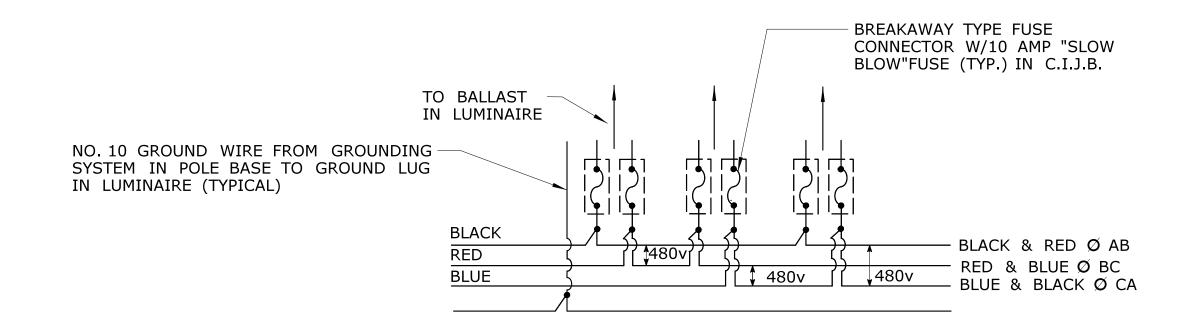
- 4) PRIOR TO INSTALLATION OF THE NEW HARDWARE, THE EXISTING ANCHOR BOLT THREADS SHALL BE CLEANED OF ALL RUST AND COATED WITH A ZINC-RICH COLD GALVANIZING COMPOUND. PRIOR TO APPLICATION OF THE ZINC COMPOUND, THE CONTRACTOR SHALL FIRST DETERMINE THE FINAL HARDWARE COMPOSITION (SEE NOTE NO. 3 ABOVE). IF NECESSARY, DRY FITTING OF THE HARDWARE SHALL BE CARRIED OUT TO ENSURE COMPLETE THREAD ENGAGEMENT. THE ZINC COMPOUND SHALL BE ALLOWED TO PROPERLY CURE AS PER THE MANUFACTURER'S INSTALLATION GUIDELINES PRIOR TO INSTALLING THE HARDWARE. AFTER INSTALLATION OF THE MOUNTING HARDWARE, TOUCH-UP OF THE ZINC COATING MAY BE REQUIRED ON EXPOSED ANCHOR BOLT THREADS. THIS WORK SHALL BE PAID FOR AS PART OF THE ITEM FOR LIGHT STANDARD.
- 5) THE ZINC-RICH COATING SHALL BE AN ORGANIC ZINC-RICH COMPOUND CONTAINING A MINIMUM OF 95% METALLIC ZINC BY WEIGHT AND CONFORM TO FEDERAL SPECIFICATION DOD-P-21035A. THE COATING SHALL MEET THE REQUIREMENTS OF MILITARY SPECIFICATION MIL-P-26915A.
- 6) SEE STRUCTURE PLAN SET FOR ANCHOR BOLT REPAIR PROCEDURE AT LIGHT POLE NOS. 94-125, 94-137 AND 94-139.
- 7) WHERE NECESSARY, THE CONTRACTOR SHALL REPAIR DAMAGED CONCRETE LIGHT STANDARD LEVELING PADS WITH NON-SHRINK GROUT. ALL LOOSE OR DETERIORATED CONCRETE SHALL BE REMOVED PRIOR TO INSTALLING GROUT. THIS WORK SHALL BE PAID FOR AS PART OF THE ITEM FOR LIGHT STANDARD.





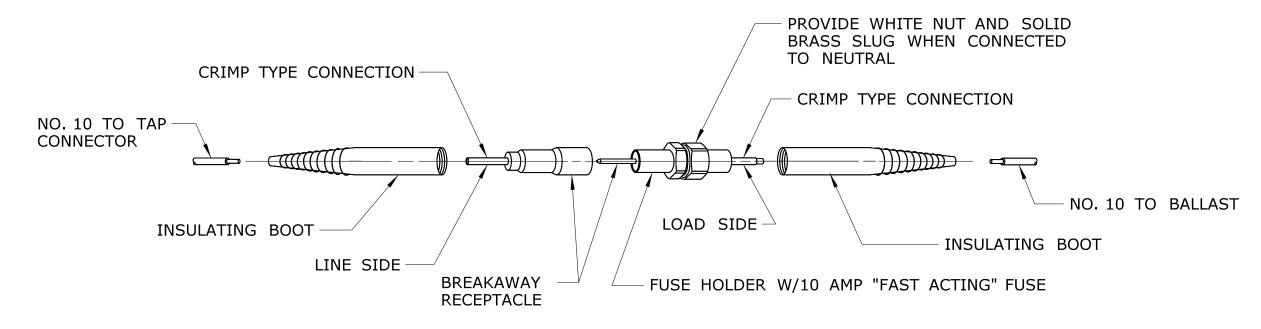
CONCRETE HANDHOLE - TYPE I

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SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES	JA	DEPARTMENT OF TRANSPORTATION	OFFICE OF ENGINEERING APPROVED BY:	I-95 SB & TR 817 BRIDGE NOS. 02514A & 02514B OVER THAMES RIVER, SR 635	DRAWING TITLE:	DRAWING NO.
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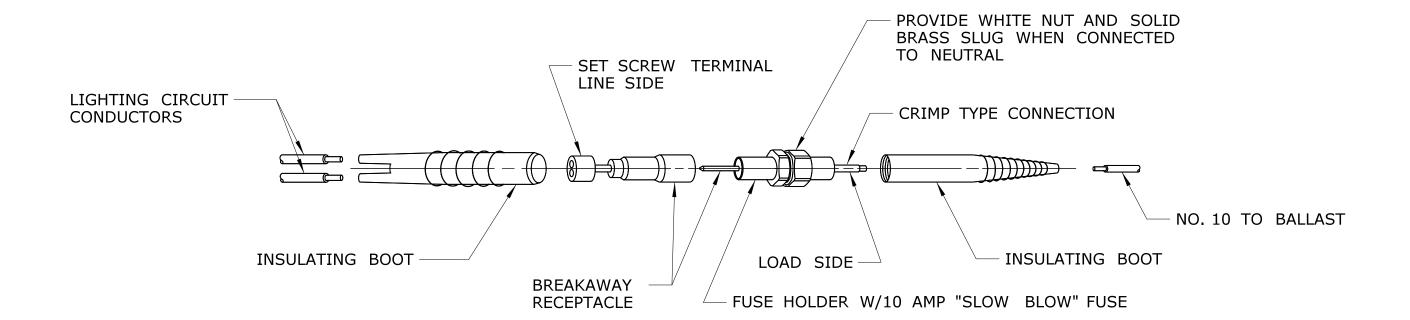
3 PHASE 3 WIRE SYSTEM

HIGHWAY LIGHTING SYSTEM



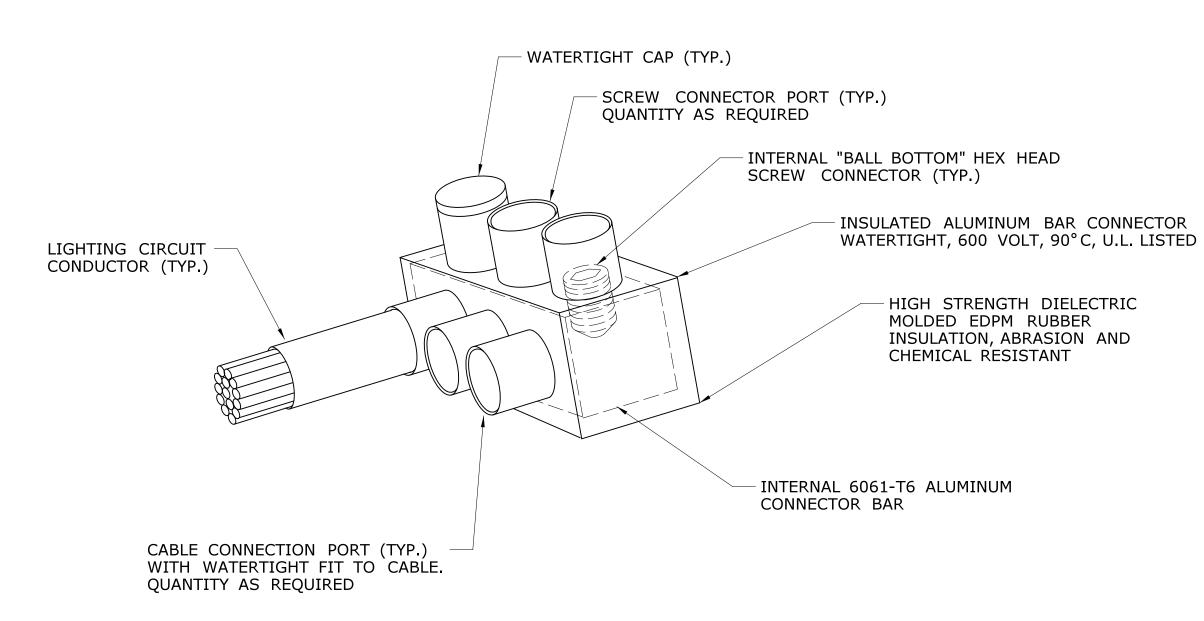
BREAKAWAY FUSE CONNECTOR

INSTALL TWO PER AC POWERED NAVIGATION LIGHT IN PARAPET CSAT IRON JUNCTION BOX



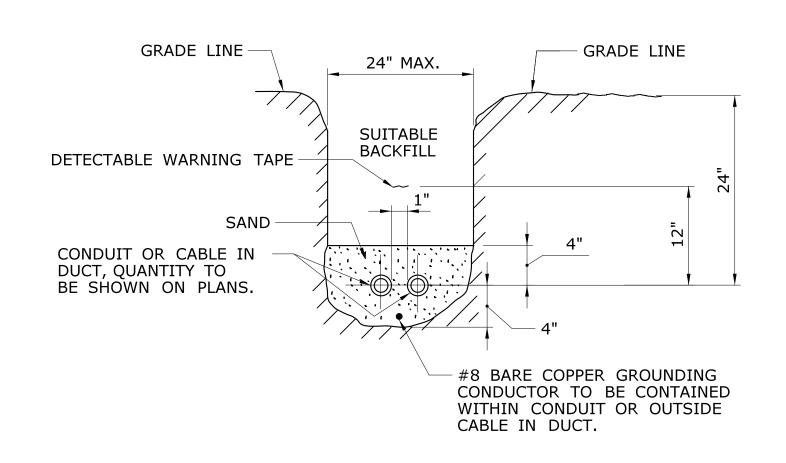
BREAKAWAY FUSE CONNECTOR

INSTALL TWO PER LIGHT STANDARD IN CAST IRON JUNCTION BOX



WATERTIGHT CONNECTOR

FOR SPLICES IN HANDHOLES AND JUNCTION BOXES



BURIED CONDUIT OR CABLE IN DUCT

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